Problem J

Tic-Tac-Toe on a Graph

Filipino schoolchildren love playing games on the classroom's blackboard or on little whiteboards (that they bring to school for math class) during recess. Alice and Bob used to enjoy playing Tic-Tac-Toe, but ever since they learned that it was a solved game, they got bored with it.

They now want to innovate on the game by playing it on a graph!

They draw n squares on the whiteboard (labeled 1 to n), and also m lines that each connect a different pair of squares (using jargon, they draw a simple undirected unweighted graph, where the squares are the vertices and the lines are the edges). Initially, all squares are empty.

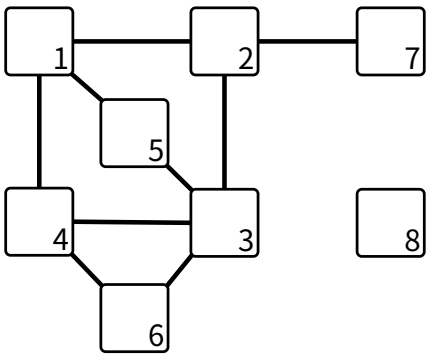
Alice and Bob will take turns; Alice always goes first. On Alice's turn, she chooses an empty square and draws an `X` in it. On Bob's turn, he chooses an empty square and draws an `O` in it.

They still get bored very easily, so **the game ends after five moves**. So, Alice always gets three turns, and Bob always gets two turns.

Alice wins if she can get "three Xs in a row". Formally, the three squares that Alice drew an `X` in must form a *path* of length 3 in the graph (though note that the order of the vertices in the path does not necessarily have to match the order in which she filled in those squares). Bob wins if he can prevent this.

Alice is interested in which starting moves allow her to always win, assuming that she and Bob perform perfect play (after that first move). Alice can "always win" if there exists a strategy she can use (after that first move) that leads her to victory, regardless of what Bob does.

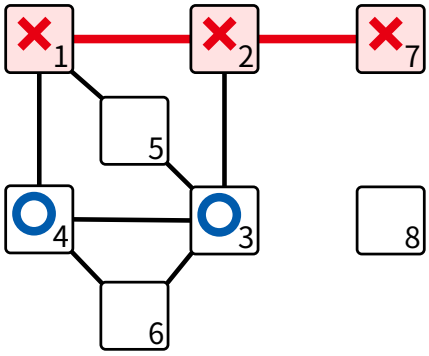
For example, consider the following graph.



If Alice draws an `X` in 1 on her first move, she can always win, regardless of what Bob does. Here is one possible game:

- Alice draws an `X` in 1
- Bob draws an `O` in 4
- Alice draws an `X` in 2
- Bob draws an `O` in 3
- Alice draws an `X` in 7

Alice wins, since she has a three-in-a-row through 1 and 2 and 7.



Note that demonstrating this one game is not sufficient to prove that Alice *always* wins; you would have to show that she has a path to victory *no matter what Bob does*. In this case though, it *is* true that Alice can always win after drawing an `X` in 1 as her first move. Trust us `;)`

We can show that Alice can always win if her starting move is among 1, 2, 3, 4, or 5. On the other hand, she is guaranteed to lose if her starting move is among 6, 7, or 8.

Given the graph, determine how many starting moves lead to a victory for Alice.

Input Format

The first line of input contains two space-separated integers n and m.

Then, m lines follow, describing the edges. Each line contains the two space-separated integers u and v, meaning that a line was drawn connecting squares u and v.

Output Format

Output a single integer, the number of possible starting moves from which Alice always wins.

Constraints

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$5 \leq n \leq 2 \times 10^5$ $0 \leq m \leq \min(2 \times 10^5, n(n-1)/2)$ $1 \leq u, v \leq n$ in each edge Each edge connects two different vertices, and no pair of vertices are connected by more than one edge.

Sample I/O

Input	Output
8 9 1 2 1 4 1 5 2 3 2 7 3 4 3 5 3 6 4 6	5